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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,235	03/17/2004	Claude Basso	RPS920030142US1	5249

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EXAMINER

DESTA, ELIAS

ART UNIT	PAPER NUMBER
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2857

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/802,235

Applicant(s)

BASSO ET AL.

Examiner

Elias Desta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2004.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-4, 6, 8, 10-19, 21, 23-34, 36-38, 41, 42, 44 and 45 is/are rejected.
7) ☒ Claim(s) 5, 7, 9, 20, 22, 35, 39, 40 and 43 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/17/2005.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Drawing

1. The drawings are objected to because of the following minor informality:
 - Fig. 1: the drawing description in page 7, line 11 of the specification describes that “computer systems 14, 16 and 18 can communicate each other” and yet, the structure shown in the figure does not show such a connection. Further, the applicant’s specification in page 7, lines 8-9 shows that the systems are actually communicating through the computer system 12. Hence applicant is required either to modify Fig. 1 or delete the phrase noted above.

Claim rejection – 35 U.S.C. 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6, 8, 10-19, 21, 23-34, 36-38, 41, 42, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu (U.S. PAP 2004/0117682) in view of Hou et al. (IEEE Article, ‘Incorporation of Optimal Timeouts into Distributed Real-Time Load Sharing’).

In reference to claims 1, 6, 13, 15, 18, 23, 24, 29, 32, 36, 38, 41, 44 and 45, Xu teaches method for maintaining or examining timers for a computer system (see Xu, Figs. 2, 3B and page 1, paragraph 1). The method includes:

- Writing a plurality of timer values (time values from the slave devices or processes to a global time value) in a global time stamp, similar to connection table, each timer value indicating a time for a particular timer (slave device) associated with one of a plurality of connections of the computer system (node), wherein the time stamp (connection table) includes a plurality of timers for each connection (slave device to the host), because the values are synchronized by the interval timer (see Xu, page 2, paragraph 22), and
- Writing one of the timer values (time values from the monarch processor) to a global timer array for each connection, such that the global timer (global time value) array can be scanned to determine the status of the connection (see Xu, page 3, paragraphs 29-34).

However, Xu does not teach that the scanned global timer array is used to determine timeouts occur for active connections.

Hou et al. teaches a method of incorporating a timeout mechanism into load sharing for a distributed real time system, such as a computer network (see Hou et al., page 528, abstract).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method for maintaining timers for a computer system as taught by Xu in order to determine when timeouts occur for active connections in a computer system because the determination of timeouts provides performance improvement while enabling fast detection of node failures (see Hou et al., page 529, 1st column, paragraphs 4 and 5).

With regard to claims 2-4, 14, 17, 30, 33, 37 and 42: Xu in combination with Hou et al. further teaches that the synchronized multiprocessor computer platform employs the scheme where the system issues timestamps which accurately reflect the order of events and expiration dates of transaction dependent events (see Xu, page 3, paragraph 35, the last 6 lines), hence the process of issuing the time stamps necessarily includes a timer value written to the global timer array for each connection [see Xu, Fig. 2, Slave Processors (216) and Global Clock Counter (220)] which is associated with timer that will expire the earliest (the order of events) out of the timers for connection (order of events). As for timestamp provides information, such as old time for last count structure both for the local and global time structure are considered a time frame of reference when a timeout has occurred (see Xu, page 3, paragraphs 24-29).

With regard to claims 10, 11, 21 and 31, Xu in combination with Hou et al. further teaches that the time value written or synchronized to the global timer (see Xu, page 2, paragraph 22) where these connections are considered inherently

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associated with a particular communication protocol or language otherwise the time stamp process would not have been doable or broadcasted to the appropriate node (see also Hou et al., page 529, section II, 'The Proposed Algorithm').

With regard to claims 12, 16 and 34: Xu in combination with Hou et al. further teaches that at least one time value is written to the connection table or global timestamp when a timeout or network activity occurs (see Xu, Fig. 2 and Hu et al., page 529, paragraphs 4 and 5).

With regard to claims 8, 19 and 28: Xu in combination with Hou et al. further teaches that the system uses a global clock counter (see Xu, Fig. 2, section 220), hence it is considered inherent for the system to have an incrementing or decrementing value until a timeout has been reached.

With regard to claims 25 and 26: Xu in combination with Hou et al. further teaches that the best timeout periods are used to diagnose a silent node when it fails (see Hou et al., page 544, 2nd paragraph). Hence, the diagnosis step necessarily includes initiating a computer system (program) if the timeout occurs. The timeout occurs after a period of time when no communication occurs (idle time) on the network connection (node) associated with the idle timer.

Claim Objection

4. Claims 5, 7, 9, 20, 22, 35, 39, 40 and 43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant disclosure.

- Khanna (IEEE Article, 'Timer Management in X.25 Layer 2: an Interpretation') teaches a layer 2 protocols that describes three timers for error recovery and efficient data transfer.
- Yates et al. (NSF Publication, 'On the Interaction Between an Operating System and Web Server') teaches how and why web server performance changes as the workload at the server vary.
- Beraldi et al. (IEEE Article, 'A Caching Scheme for Routing in Mobile Ad Hoc Networks and Its Application to ZRP') teaches reactive protocols which employs some form of caching to reduce the number of route discoveries using associating timeout with each cache entry.
- Prasad (U.S. Patent 6,381,214) teaches memory effect leaky bucket monitor for traffic management of asynchronous transfer mode data communications.
- Bjorkamn (IEEE Article, 'Designing Hierarchical Hardware for Efficient Timer Handling') teaches a special-purpose protocol machines that are used to offload the host in order to speed up protocol execution.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elias Desta whose telephone number is (571)-272-2214. The examiner can normally be reached on M-Thu (8:30-7:00).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)-272-2216. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9306 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)-272-1750.

Elias Desta
Examiner
Art Unit 2857

-ed

July 6, 2005


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100